

## The Races in South West Africa of the Orange River Francolin.

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I agree with Roberts (1936 : 32) that Smith's description (1836 : 55) of *Perdix levalliantoides* fits the Orange River Francolin rather than the Redwing Francolin, *F. levaillanti*.

In the eastern limits of the range of this species it is usual to recognise three races, *levalliantoides*, *gariensis* and *ludwigi*. I have not examined their individual claims to racial status, but they are all birds with a relatively great amount of reddish pigment in the plumage; the upperparts for example, are blotched with deep chestnut on a mainly buffish-chestnut and grey ground—the grey being relatively inconspicuous—the ground colour of the underparts is light chestnut, and there is a great deal of chestnut in the wings.

In the northern Kalahari Desert and on the west side of the continent the amount of chestnut colour in the plumage is greatly reduced. This reduction is found in varying amounts in different areas and gives rise to several recognisable races. Several specimens taken in the Windhoek and Rehoboth areas show the nearest match in colour to the eastern birds. The general colour of the upperparts is made up of about equal amounts of brownish-grey and buffish-chestnut, the ground colour of the underparts is buff, and the chestnut in the wings is lighter and rather less extensive.

Further north, in the Tsumeb area, there is a further stage in the reduction of chestnut colour, the upperparts being quite appreciably greyer, though the underparts are much the same tone of buff. Specimens from the northern Kalahari Desert are altogether much lighter, the grey above and the buff below being much paler.

All these variations, including the forms from the eastern side of the continent are characterised by having a narrow black-and-white gorget on the foreneck below the white throat. But in the Kaokoveld, roughly between the Huab and Cunene Rivers and in Angola this gorget is much wider. Of this group the Angola birds are greyer than those from the Kaokoveld, having very few blotches of chestnut on the upperparts, and the chestnut in the wings is reduced to a very small amount at the base of the feathers. Apart from the broader gorget the general colour appearance of the Kaokoveld birds, both above and below, is more like that of the northern Kalahari birds than those from Tsumeb. One Tsumeb specimen I have examined shows a tendency to have a rather broader gorget suggesting that there is probably a zone of intergradation between narrow and broad gorget forms.

Briefly therefore, the general pattern of variation in this species seems to be most apparent in two features. There are graded changes in the extent to which a reddish type of pigment influences the general colour appearance of the plumage (either quantitatively or qualitatively). The changes take the form of a reduction of red pigment across the continent

roughly from south-east to north-west. In the extreme north-west this reduction is accompanied by an increase in the width of the black-and-white gorget.

I agree with Sclater (1924 : 83, who listed the species under *F. garipepennsis*) that all these changes take place in what can be regarded as a single species. Roberts (1940 : 72) considered that two species should be recognised, apparently regarding narrow and broad gorgets as specific characteristics.

The nomenclature of the various races is rather involved. Much depends on the identity of Neumann's *pallidior*. The type is in the American Museum of Natural History and it was very kindly compared for me by Dr. Chapin with examples of the Windhoek-Rehoboth, Tsumeb, and Kaokoveld forms which I sent him. He found that a Tsumeb specimen (B.M. Reg. No. 1917 : 4 : 6 : 3) most resembled the type except that it was "a little less mottled with rufous on the feathers of back and rump." In my opinion this difference is not of much significance for there is evidence of a good deal of individual variation in the amount of mottling and barring on the upperparts throughout the range of the species. It seems fairly certain therefore that the Tsumeb birds can be identified as *pallidior*. It is not known with certainty where the type of *pallidior* was obtained. The type locality is usually quoted as "south of the Cunene River," but the area immediately south of the Cunene (in the vicinity of the Ruacana Falls, the usual part of the river reached by expeditions) contains the type locality of Roberts' broad gorgetted *cunenensis*. The type of *pallidior* was obtained by young Eriksson, who accompanied Andersson on his last expedition. The itinerary of this expedition can be determined fairly accurately from Wallis' biography of Andersson ('Fortune my Foe,' 1936), but Dr. Chapin tells me that the label on the type does not give any precise locality nor date and that the information "south of the Cunene" is in Neumann's handwriting. It seems therefore that this statement could be interpreted as meaning almost anywhere covered by the expedition, which began at Otjimbingwe on the Swakop River. Eriksson and Andersson visited the Tsumeb area and it seems reasonable to me to restrict the type locality to that place.

The distinctiveness of the Tsumeb specimens, which are now identified as *pallidior*, has already been mentioned in literature, by Mr. Mackworth-Praed (Ibis, 1922 : 123) and others, although the Windhoek-Rehoboth specimens have hitherto been regarded as more typically *pallidior*. I think they require a new name and Captain Grant, who has also examined them, is of the same opinion.

The broad-gorgetted Cunene race was described by Roberts (Ann. Trans. Mus. 1932 : 22) on two specimens obtained in 1923 near the Cunene by the South Africa Museum Expedition. Dr. Barnard, who was on the expedition, has very kindly sent me the specimens for examination. He told me that the party was at Otjimbombe, near the Nanquali Rapids on the Cunene, on the date on which the specimens were taken. I found that they were matched very closely by topotypical specimens of Hoesch and Niethammer's *stresemanni* described

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from the upper Huab River. In this description no mention is made of *cunenensis*, possibly because Roberts described it under the species *jugularis* and not *gariensis* (both of which are now in my opinion included in the single species *levalliantoides*).

The following is therefore a summary of the races and nomenclature of the Orange River Francolins in South West Africa :—

*Francolinus levalliantoides wattii* new race.

*Characteristics*.—Reddest of the western races, but much less deeply coloured than the eastern races. General colour of upperparts a mixture of brownish-grey and buffish-chestnut with a few light chestnut and blackish blotches. Ground colour of underparts buff. Light chestnut colour occupies about half the area of the flight feathers and is mainly limited to the base or outer webs. Narrow black-and-white gorget.

*Distribution*.—Vicinity of Windhoek and Rehoboth.

*Type*.—An adult male from Windhoek, South West Africa. Collected by C. G. Finch-Davies on 10th June, 1917. B.M. Reg. No. 1917 : 9 : 17 : 2. Wing 173, tail 82, bill 34. Colour of bill, culmen and tip of lower mandible dark brown, remainder yellow ; iris hazel ; legs yellow-ochre.

*Remarks*.—Represented by four specimens, in addition to the type, in the B.M. collection. Named after Dr. J. S. Watt, Director of Agriculture, South West Africa, who gave a lot of assistance to the British Museum expedition.

*F. l. pallidior* Neumann.

*Francolinus jugularis pallidior* Neumann, Bull. B.O.C. 21, 1908, p. 45 : Tsumeb (restricted type locality).

*Characteristics*.—General colour of upperparts darker and greyer than in *wattii*, but ground colour of underparts much the same tone of buff. Narrow gorget.

*Distribution*.—Tsumeb area.

*F. l. cunenensis* (Roberts).

*Scleroptila jugularis cunenensis* Roberts, Ann. Trans. Mus. 15, 1932, p. 22 : Otjimbombe, Cunene River.

*Francolinus gariensis stresemanni* Hoesch & Niethammer, Journ. Orn. 88, Suppl. 1940, p. 89 : Kakatswa, near Kamanjab.

*Characteristics*.—General colour of upperparts rather paler grey than in *pallidior* and ground colour of underparts lighter buff. Black-and-white gorget much broader.

*Distribution*.—Kaokoveld, from upper Huab River to Cunene River.

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